

**COLOR TELEVISION**

**SERVICE MANUAL**

**TS2050J**  
**(TK2050)**

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Note: This service manual is only for professional service personnel's reference. Before servicing the unit, please read the following items carefully.

## 1 Safety instruction

### 1.1 X-RAY radiation precaution

1.1.1 Excessive voltage will cause harmful X-ray. To avoid this radiation hazard, the high voltage should fall within the limitation. The appliance works at AC 120V, 60Hz. The high voltage of zero beam current(brightness, contrast and color is min) should be within 27kV on condition that the main power (B+) voltage is AC120V. And it should not exceed 28kV in any condition.

When servicing, please refer to the HIGH VOLTAGE CHECK procedure this service manual before check the high voltage and the high voltage meter should be reliable and accurate.

\* Keep the main power voltage at 120V when checking the high voltage.

1.1.2 The primary source of X-RAY RADIATION is the CRT. The CRT of this TV set have gotten the approval of safety authentication inspection. The replacement CRT should be exactly the same type and specification CRT which has gotten a similar safety approval, and check the high voltage according to the HIGH VOLTAGE CHECK procedure.

### 1.2 safety precaution


a. Since the power supply circuit of this receiver is directly connected to the AC power line, an isolation transformer is necessary during dynamic service to avoid possible shock hazard.

b. Always discharge the graphite layer conductor when moving the CRT.

c. Disconnect the power cord before replacing parts.

d. When replacing high-power resistor, keep the resistor 10 mm away from the circuit board.

### 1.3 Component safety precaution

Many electrical and mechanical parts in the chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection. Replacement parts which have these special safety characteristics are identified in this manual and its supplement electrical components having such features are shaded or marked by  on the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same characteristic as specified in the parts list may create shock, fire, X-RAY RADIATION or other hazards.

## 2.General instruction

2.1 Copy the standard model data to let EEPROM (N702 24C08)of the chassis have those data before placing it on the unit, do "factory adjustment" if necessary. If use a blank EEPROM directly, you should preset IIC data and then do other common adjustment. Refer to TABLE1 to preset EEPROM.

2.2 the adjustment should be done under following circumstances without additional instruction

a) Alternating current 120V/60Hz

b) Preheat at least 30 min

2.3The unit has auto degaussing circuit, the auto degaussing process can be finished within 2s when the main power. only when turn on the unit at least 20min after last time turn off TV does the auto degaussing circuit work.

2.4 If the CRT with magnetism affects color purity and convergence, when the auto degaussing eraser. if the color purity and convergence are still not very good, then corresponding adjustment should be done. Refer to picture tube adjustment method for adjustment.

### 3 Alignment instruction

#### 3.1 Debugging item

- a)adjust mode instruction
- b)B+ voltage adjustment
- c)RFAGC voltage adjustment
- d)focus adjustment
- e)Screen-grid voltage white balance, sub brightness adjustment
- f)filed scan center, line , amplitude adjustment
- g)H-scan center adjustment

#### 3.2 Alignment flow

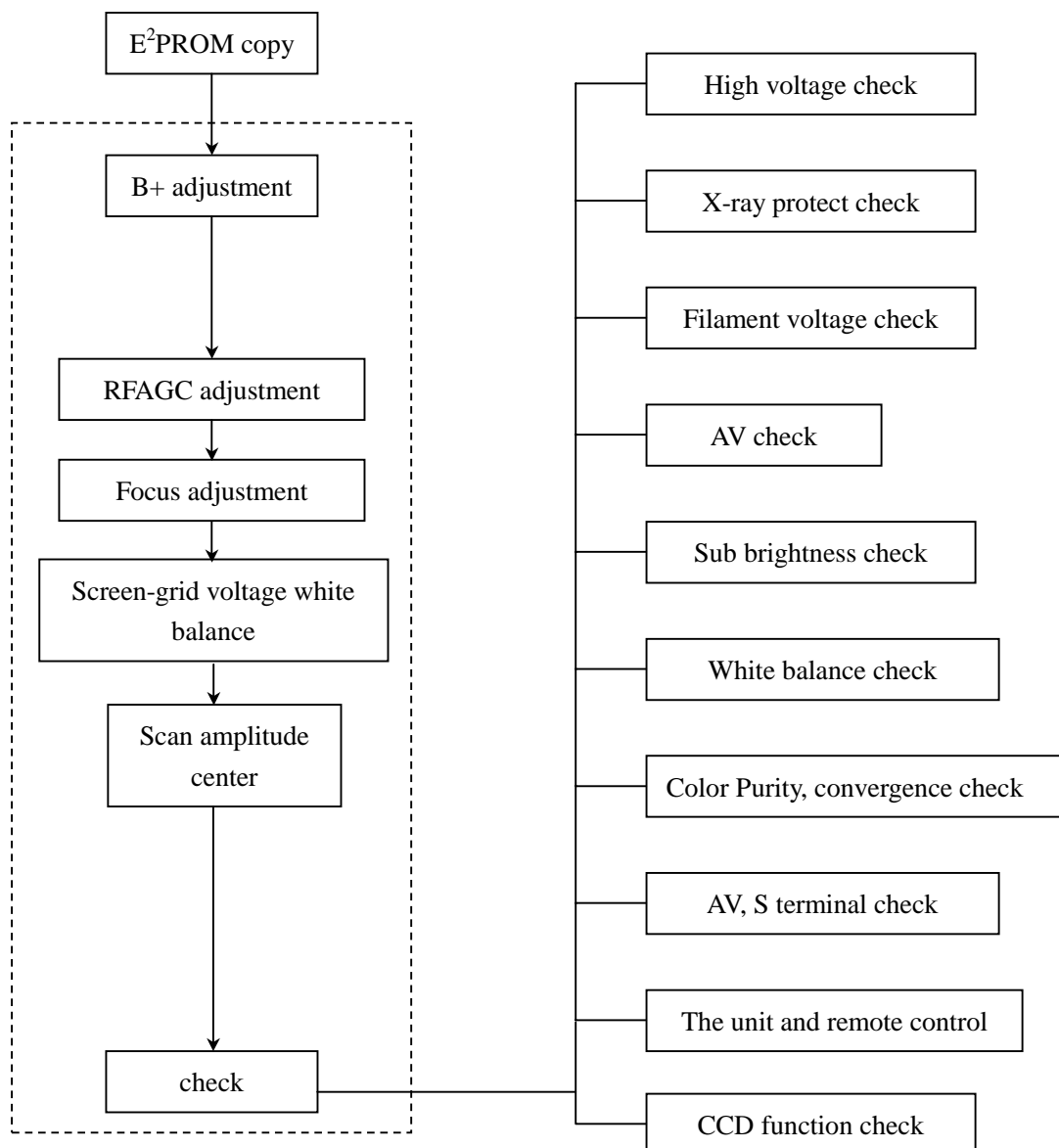


Fig-1 alignment flow

### 3.3 Enter/exit factory adjustment method

Use remote control, press "MENU" button, then press 6483, "TEST" will appear on screen to show that you have entered the factory adjustment method, press "STANDBY" to exit it. Use factory remote control, press the "PRESET" and "TEST" button, then the screen display "test" which means you have entered into the factory adjustment mode, press the "TEST" or "STANDBY" to exit.

### 3.4 select adjustment item and adjust data

after entering factory adjustment mode, press 1-4 number buttons to select menu 1- menu 4; To enter into MENU0, MENU5-MENU9, you may return to MENU1-MENU4 or just after you enter into "TEST" interface, quickly press "CHILD LOCK" button and then the number button (0,5-9) to enter into relative menus. Press "CH+" and "CH-" to select and "V+" and "V-" to adjust.

### 3.5 User purview

a).Factory adjustment mode menu1-menu4: only debugging worker, service checker, craftwork technician, designer may operate.

b).Factory adjustment mode menu0, menu5-menu9: only craftwork technician, designer may operate.

## 4 Alignment method

### 4.1 B+ voltage adjustment

- a) connect B+ point with a digital voltmeter to measure the negative pole of VD524
- b) receive PHILIPS test pattern signal and set the picture to standard.
- c) Adjust VR501 to let the value of B+ voltage be  $110\text{ V} \pm 0.5\text{ V}$  (yongxin super pure flat)

### 4.2 AGC adjustment

- a) receive VHF-H band, 60 dB RF signal.
- b) Select factory menu2 of "AGC".
- c) Adjust AGC-TOP to let the picture just without noisy, then the voltage of tuner AGC is the required value for adjustment.
- d) exit factory menu

### 4.3 Normal temperature aging

- a) do not receive signals.
- b) under "Test" condition, set the accelerator to an appropriate point for aging.

### 4.4 Accelerator adjustment

- a) do not receive signals;
- b) select "SC" of factory menu3 to let the field scanning stop working.
- c) adjust acceleration potentiometer to let bright lines just appears on screen.
- d) exit SC menu.

### 4.5 High voltage check

Note: the main power voltage ( $B+=110\text{ V}$ ) can affect the high voltage directly, so be sure to let the B+ power voltage accurate. Under any state, the high voltage should not exceed 28 kV.

a) connect an accurate high voltage meter between the second anode cap of picture tube and ground.

- b) turn on TV and receive testing card signal.
- c) set picture to standard, the high voltage should be  $25\text{ kV} \pm 0.5\text{ kV}$ .
- d) the high voltage should not exceed 27KV with minimum brightness and contrast.

### 4.6 Focus adjustment

- a) receive A12-PHILIPS (NTSC) signal

b) adjust focus electrode potentiometer on FBT to optimize B area focus of screen.

#### 4.7 White balance adjustment (color temperature $12000^{\circ}\text{K} \pm 8\text{MPCD}$ , $X=0.270 \pm 0.008$ , $Y=0.283 \pm 0.008$ )

a) receive full white signal, set color is 0

b) select factory menu3

c) on the basis of blue gun "BD", select and adjust "RD, GD" item to make white balance respectively at brightness  $Y=6\text{cd/m}^2$ ,  $Y=80\text{cd/m}^2$  meet standard (color temperature  $12000^{\circ}\text{K} \pm 8\text{MPCD}$ ,  $x=0.270 \pm 0.008$ ,  $y=0.283 \pm 0.008$ )

d) If at brightness  $Y=6\text{cd/m}^2$  white balance can not meet standard, you may adjust "RB, GB" item, then repeat step C) until white balance meet standard.

#### 4.8 Filed scanning adjustment (fig-2)

a) Receive NTSC of A12-PHILIPS test pattern signal.

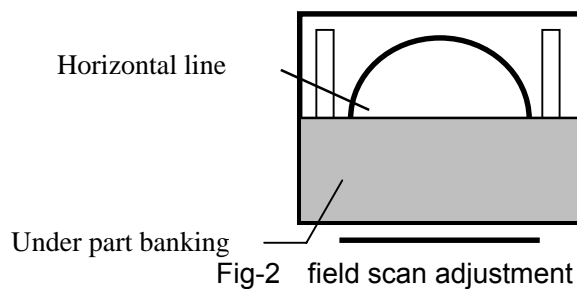
b) select factory menu1

c) adjust V-SLOPE menu to let the horizontal center line of test pattern above blanking.

d) select V-SHIFT menu and adjust to let the vertical center of picture coincide with vertical center of picture tube.

e) Select V-SIZE menu and adjust to let the vertical reproduction ratio of picture acceptable 8%.

f) Adjust V.SC to optimise the vertical S correction of picture.



#### 4.9 Horizontal scanning adjustment (Fig-3)

a) Receive A12-PHILIPS(NTSC) signal

b) Select factory menu1

c) Select H.SHIFT menu and adjust to let the scanning horizontal center coincide with mechanical center of picture tube

d) Exit factory menu

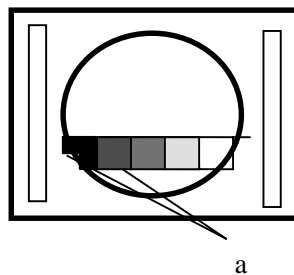


Fig-3 line scan adjustment

#### 4.10 Sub-brightness adjustment

a) Receive A12-PHILIPS(NTSC) signal

b) Select "SB" of factory menu3

c) Adjust "SB" to let things between the sixth and seventh grey scale clear

#### 4.11 OSD adjustment

a) Receive A12-PHILIPS(NTSC) signal

b) Select OSD H and OSD V of factory menu4. Adjust OSD H and OSD V to let OSD at a specified

place.

c) Exit factory menu

#### 4.12. Checking point

##### 4.12.1 High voltage check

- 1) Connect High Voltage meter between CRT second anode and GND.
- 2) Receive A7 signal, set the control to "STANDARD", measure the high voltage value, the reading should be  $25\text{ kV} \pm 0.5\text{ kV}$
- 3) Set the brightness and contrast to minimum (zero beam current), measure the high voltage, the reading should not exceed  $27\text{ kV}$ .

##### 4.12.2 CRT filament voltage check

Receive A7 signal, set user control to "STANDARD" mode, use effective voltage meter to measure CRT filament voltage, the reading should be  $(6.3 \pm 0.3)\text{ V}_{\text{rms}}$

##### 4.12.3 X-ray protection check

- 1) Receive A7 signal, set user control to "STANDARD" mode.
- 2) Use voltmeter to measure VD482 positive pole to GND voltage, the reading should be between  $1.0\text{ V} \sim 2.5\text{ V}$ .
- 3) Use  $5.3\text{V}$  DC regulated voltage power with  $1\text{K}$  resistor in series to touch TP1 (VD482 positive pole), connect DC regulated voltage power negative pole to GND, X-Ray protection circuit should function, at this time the TV set should be without raster, without sound. Disconnect the DC regulated voltage power, picture and sound should restore to normal.

##### 4.12.4 Picture and sound check

- 1) Receive standard TV signal.
- 2) Use picture control buttons to check color, contrast, brightness, sharpness, tint's function.
- 3) Use sound control buttons to check volume control function.

##### 4.12.5 Sub-brightness check

Receive A7 signal, set brightness to 75, contrast to 50, color to 0, sharpness to 50, picture left side 1-6 lattices slightly light up.

##### 4.12.6 Color purity and convergence check (in normal way)

##### 4.12.7 AV terminals IN/OUT check, S-VIDEO in check, Y,Cb,Cr in check.

##### 4.12.8 Other buttons on the TV set and remote controller function check.

#### 4.13 Degaussing

- a) The unit has an auto degaussing circuit, the degaussing circuit works several seconds after turning on TV
- b) If you want to move TV or change the direction, turn off TV and ten minutes later the degaussing circuit will work
- c) For better degaussing effect, you can use magnetic eraser
- d) Move the magnetic eraser clockwise before your TV, when it is  $2\text{m}$  away from your TV, turn off the magnetic eraser. If the effect is still not very good, you can adjust "color purity" and "convergence"

#### 4.14 Color purity correction

- a) Turn on your TV
- b) At least 15 minutes later, use anti-magnetized coil for degaussing
- c) Obtain maximum brightness and contrast
- d) Select factory menu<sup>3</sup> and adjust to let R and B be zero, then let only green raster appear on the screen at the moment
- e) Loosen screws of deflection yoke frame to let vertical green belt appear on screen only
- f) Move the rubber wedge
- g) Rotate along neck of picture tube and slide color-purity magnets until the green belt at the middle of screen and is vertical at the same time
- h) Slowly move the deflection yoke backward or forward until the whole green raster appears on screen, tighten the screws of the deflection yoke
- i) Check the color purity of red raster and blue raster
- j) Adjust white balance again to obtain white raster

#### 4.15 Convergence correction

##### 4.15.1 Central convergence correction

- a) Turn on your TV
- b) At least 15 minutes later, receive square test pattern signal
- c) Adjust brightness and contrast to get the best picture
- d) Adjust the angle of two tetrode magnetic rings to let the red vertical line coincide with the blue vertical line at middle of screen
- e) Keep the angle unchanged, move the two tetrode magnetic rings at the same time to let the red and blue horizontal lines coincide at middle of screen
- f) Adjust two hexode magnetic rings to let the green line coincide with the mixed line of red and blue. Adjust the angle between them will affect the vertical line, move them together will affect the horizontal line.
- g) Repeat d), e), f) and observe the movement of red, green and blue.

##### 4.15.2 Ambient convergence correction

- a) Turn on your TV
- b) At least 15 minutes later, loosen the screws of the deflection yoke
- c) Fixate the rubber wedge temporarily under the deflection yoke
- d) Move the deflection yoke upward or downward to get best convergence, push the rubber wedge into space between picture tube and deflection yoke to fixate the deflection yoke temporarily
- e) Place the rubber wedge whose overlay paper has been removed at the bottom space
- f) Move the deflection yoke left and right to get best convergence
- g) Keep the condition unchanged, place another rubber wedge whose overlay paper has been removed also at the upper space at the same time
- h) Remove the interim rubber wedge, adhere it to picture tube and deflection yoke
- i) After placing three rubber wedges, check all the convergence again
- j) Stick three transparent viscous belts to the rubber wedge

#### 4.16 Software adjustment instructions

##### 4.16.1 instructions

This software contain MTS (option), English, Frence and Spanish of OSD, CCD and Parental Control function, FS tuner mode, 181 channel.



4.16.2 turn on the unit in the STANDBY state

Press CH+/CH- buttons turn on in the STANDBY state.

4.16.3 Information of software version

Enter MEU9 of the factory menu in the top.

4.16.4 “STANDARD”, “COLORFUL” and “SOFTNESS”

a).Enter MENU5 Mode of the factory menu

b).charge their for seemly analog quantity, then return standard option.

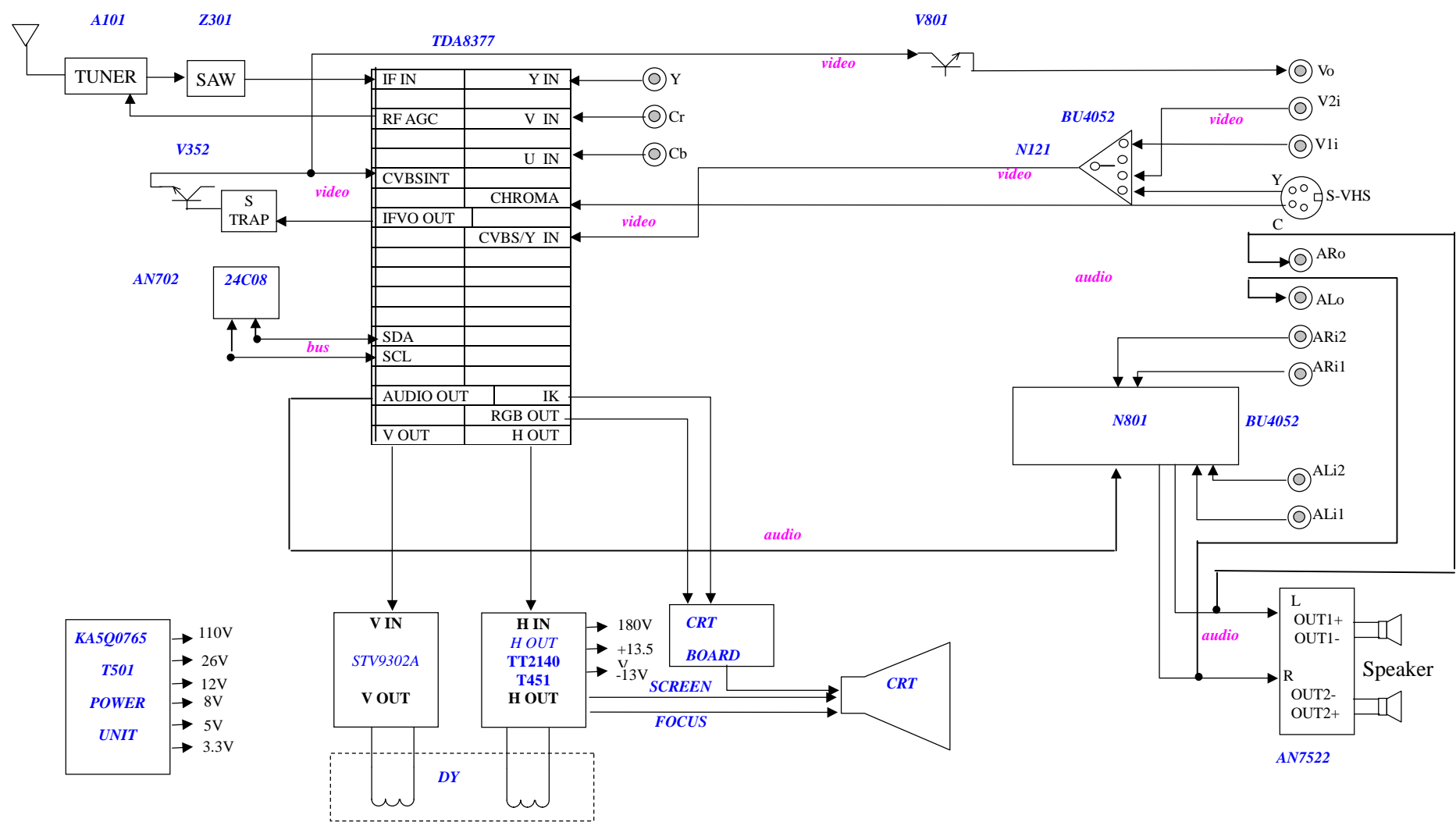
Chart 1 **I<sup>2</sup>C TDA (NOM)8377-B-6NA E<sup>2</sup>PROM** pre-set data  
**I<sup>2</sup>C standard UOC for export bus control adjustment item default setting**

MI	Items	range	Preset
M0	SUBCON	0-63	56(sub-contrast)
	SUBCOL	0-63	56(sub-chroma)
	SUBSHP	0-63	48(sub-acutance)
	SUBTINT	0-63	31(sub-hue)
	AKB	ON/OFF	ON
M1	V.SLOPE	0-63	36(field center adjustment)
	V.SHIFT	0-63	32(field point adjustment)
	V.SIZE	0-63	36(field amplitude adjustment)
	V.SC	0-63	32(field line )
	HSHIFT	0-63	32(line point adjustment)
	PROGRAMA.NO		2(channel)
M2	AGCTAKEOVER	0-63	21(AGC adjustment)
	SHIPPING		0(leave factory set)
M3	BT	0-100	75(adjust white balance of brightness)
	CT	0-100	75(adjust white balance of brightness contrast)
	SC		0
	RB	0-63	32(red cut off level adjustment)
	GB	0-63	32(green cut off level adjustment)
	RD	0-63	32(red cut off level adjustment)
	GD	0-63	32(green cut off level adjustment)
	BD	0-63	32(blue cut off level adjustment)
	SB	0-63	40(sub brightness adjustment)
M4	OSD.V.POSITION	0-63	15(OSD position)
	OSD.H.POSITION	0-63	25(OSD H-position)
	BTSC-MODE	MONO/STEORO	MONO(STEORO,SAP )
	BTSC-ST	0-15	13
	BTSC-SP	0-15	12
	BTSC-L1	0-15	1

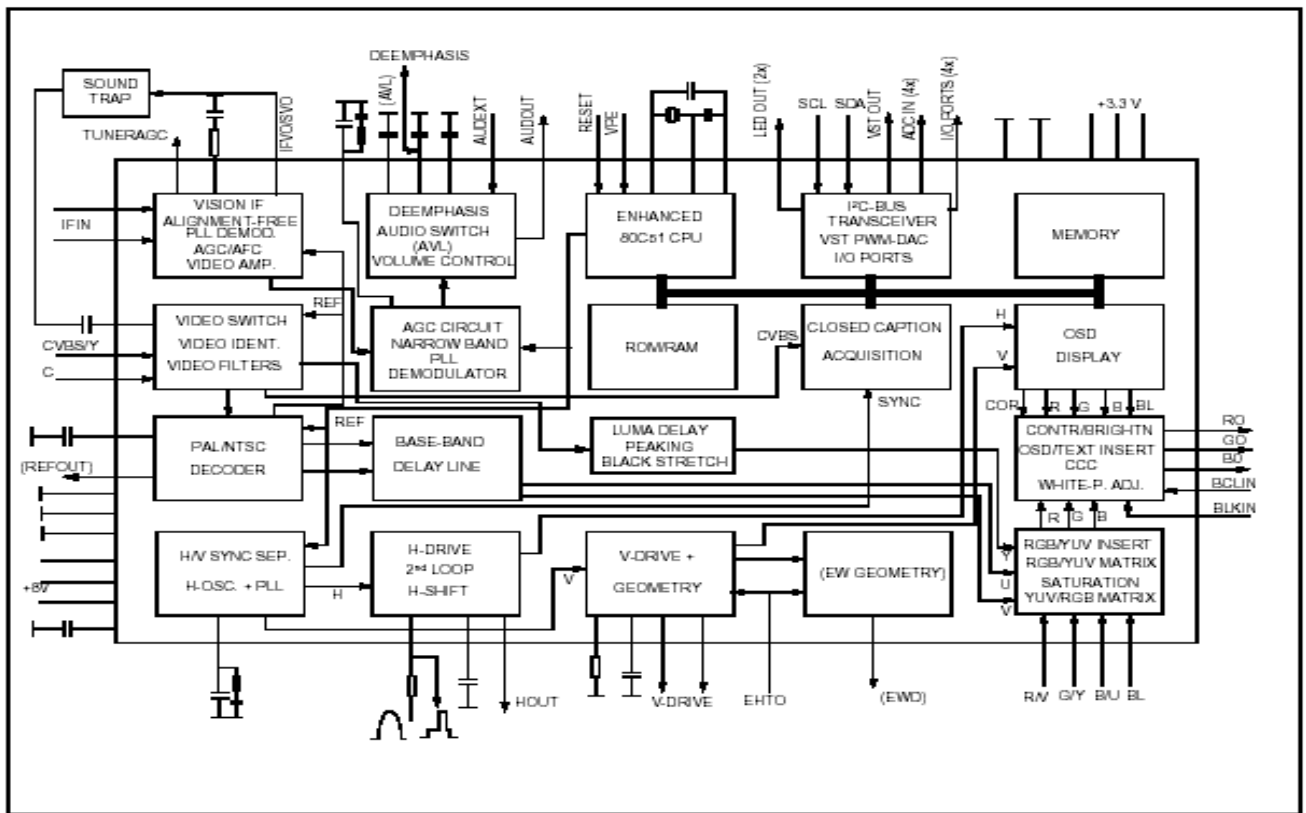
	BTSC-A1	0-31	15
	BTSC-A2	0-31	0
	BTSC-TC	0-7	0
	BTSC-STC	0-1	0
	BTSC-ADJ		
M5	MODE		STANADARD(standard, soft, floweriness)
	BRIGHT	0-100	75
	CONTRAST	0-100	75
	COLOR	0-100	50
	SCBRIGHT	0-63	23
	YDELAYTV	0-15	12
	YDELAYAV	0-15	12
M6	OSO	0-1	1(field over-scan switch)
	AGCSPEED	0-3	1(AGC of speed)
	FFI	0-1	0(IF PLL SPEED)
	FMWS	0-1	1(frequency range of sound OFF=225KHZ,ON=450KHZ)
	RP0	0-3	0(pre-shock and over-shock scale)
	NTSCMATRIX	USA/JAPAN	USA
	VOLPIN	0-1	0(1:push-pull output; 0: OC gate output.)
	SOFT CLIP	0-3	3(white level limit)
	PEAK WHITE	0-15	15(peak white limit)
	CORING	0-1	0(coring noise reduction)
M7	AV2	0/1	1
	SVHS	0/1	1
	YUV	0/1	1
	VOLADJPOING		1(volume value have:1,25,50,75)
	VOLVALUE		20(volume curve value:20,60,75,90)
M8	CATHOOELEVEL	0-15	7(cathode level)
	UOCVOLUME	0/1	0(0:PWM terminal control; 1:UOC sound amplitude control of inside)
	FMATT	0-63	45(UOC sound output of amplitude) BTSC : 38
	COMBFILTRE	0-1	0(N comb filter)
	HEADPHONE	0-1	0(earphone function selection)
	VM OPTION	0/1	0(VM function selection)
	FRANCE	0/1	1 French
	SPANISH	0/1	1 Spaish
M9	NOM8377-B-6NA		
	STARTON	0-2	2(turn on)

	STARTTIME	6-15	8(turn on time)
	IF OFFSET	0-63	32(IF compensate)
	TUNER OPTION	0-2	0(BXATB011F---X/ BXATB108F---K) 1 (BXATB017F---K) 2(XXX)
	GAME	0/1	0
	GALEND A	0/1	0

Block diagram



## MAIN IC 8377:



BLOCK DIAGRAM

### ICs functional description

UOC TDA(OM)8377

SYMBOL	PIN	DESCRIPTION
STAND BY output.	1	In STAND BY mode, high level (Power OFF). For Power ON this pin will be reduced to low.
SCL	2	I <sup>2</sup> C-bus clock line
SDA	3	I <sup>2</sup> C-bus data line
TUNING	4	NC
P3.0/NTSC SW	5	NC
KEY	6	Control keys input
VOL	7	Sound Volume control PWM output
MUTE	8	Sound mute output
VSSC/P	9	Digit ground for $\mu$ -controller core and periphery
BAND1	10	NC
BAND2	11	NC
VSSA	12	Analog ground of teletext decoder and digital ground of TV-processor
SECPLL	13	PLL decoupling
VP2	14	2 <sup>nd</sup> supply voltage TV-processor(+8V)

DECDIG	15	decoupling digital supply of TV-processor
PH2LF	16	Phase-2 filter
PH1LF	17	Phase-1 filter
GND3	18	Ground 3 for TV-processor
DECBG	19	Band gap decoupling
AVL/EWD	20	Automatic volume leveling /EAST-WEST drive output
VDRB	21	Vertical drive B output
VDRA	22	Vertical drive A output
IFIN1	23	IF input 1
IFIN2	24	IF input 2
IREF	25	Reference current input
VSC	26	Vertical sawtooth capacitor
TUNER AGC	27	Tuner AGC output
AUDEEM/SIFIN1 *1	28	Audio deemphasis or SIF input
DECSDEM/SIFIN2	29	decoupling sound demodulator or SIF input 2
GND2	30	ground 2 for TV processor
SNDPLL/SIFAGC *1	31	narrow band PLL filter or AGC sound IF
AVL/SNDIF/REF0/ AMOUT *1	32	Automatic Volume Levelling / sound IF input / subcarrier reference output / audio deemphasis
HOUT	33	horizontal output
FBISO	34	flyback input/sandcastle output
AUDEXT/QSSO/ AMOUT *1	35	external audio output / QSS intercarrier out
EHTO	36	EHT/overvoltage protection input
PLL IF	37	IF-PLL loop filter
IFVO/SVO	38	IF video output / selected CVBS output
VP1	39	supply voltage TV processor
CVBS INT	40	internal CVBS input
GND1	41	ground for TV processor
CVBS/Y	42	CVBS/Y input
CHROMA	43	C input
AUDOUT/AMOUT *1	44	audio output /AM audio output (volume controlled)
INSSW2	45	2nd RGB / YUV insertion input
R2/VIN	46	2nd R input / V (R-Y) input / PR input
G2/YIN	47	2nd G input / Y input
B2/UIN	48	2nd B input / U (B-Y) input / PB input
BCLIN	49	beam current limiter input
BLKIN	50	black current input / V-guard input
RO	51	Red output
GO	52	Green output
BO	53	Blue output
VDDA	54	analog supply of Closed Caption decoder and digital supply of

		TV-processor (3.3 V)
VPE	55	OTP Programming Voltage
VDDC	56	digital supply to core (3.3 V)
OSCGND	57	oscillator ground supply
XTALIN	58	crystal oscillator input
XTALOUT	59	crystal oscillator output
RESET	60	reset
VDDP	61	digital supply to periphery (+3.3 V)
P1.0/INT1	62	TV/AV (AV1) / AV2 /S-VHS mode Output.
P1.1/T0	63	TV/AV (AV1) / AV2 /S-VHS mode Output.
P1.2/INT0	64	Remote control signal input.

AN7522/AN17821A Function : audio output

Symbol	PIN	Function	Symbol	PIN	Function
Vcc	1	Power supply	GND	7	ground
Out 1 (+)	2	Ch 1 output (+)	In 2	8	Ch 2 input
GND(out 1)	3	Ch 1Ground	VOL	9	Volume Control
Out 1 (-)	4	Ch 1 output (-)	Out 2 (-)	10	Ch 2 output (-)
Standby	5	Mute input	GND(out 2)	11	Ch 2 Ground
In 1	6	Ch 1 input	Out 2 (+)	12	Ch 2 output (+)

STV9302A/LA78040 Function : vertical output

Symbol	PIN	Function	Symbol	PIN	Function
INV IN	1	Input	V OUT	5	Vertical output
VCC1	2	Power	VCC2	6	Output power supply
PUMP UP	3	Pump up power	NON INV IN	7	Negative feedback
GND	4	Ground			

IC voltages

TDA(OM)8377

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	2.8	3.8	3.6	3.3	3.5	3.5	0.1	0.1	0	5.4	0.1	0	2.3	8	5	3
PIN	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	4	0	4	0.9	0.7	0.8	1.9	1.9	3.9	3.8	1.6	3.2	3.4	0	2.4	0.1
PIN	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	0.6	0.5	3.7	1.7	2.4	3.1	8	3.8	0	3.4	1.5	3.6	2.3	2.6	2.6	2.6
PIN	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
V	2.3	7.2	2.7	2.7	2.7	3.5	0	3.5	0.1	1.7	1.8	0	3.5	0.1	0.1	5

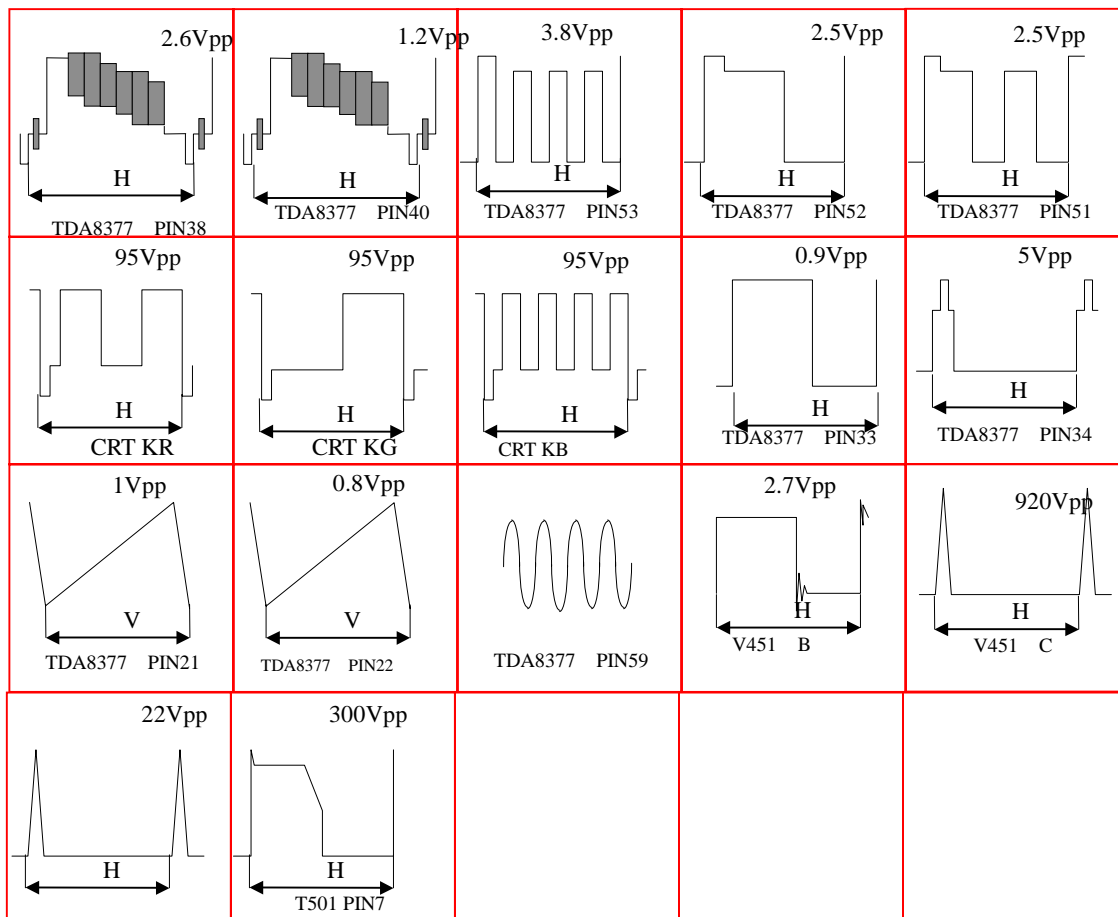
STV9302A/LA78040

PIN	1	2	3	4	5	6	7
V	0.7	15	-12	-15	0.3	15.9	-0.07

# AN 7522/AN17821A

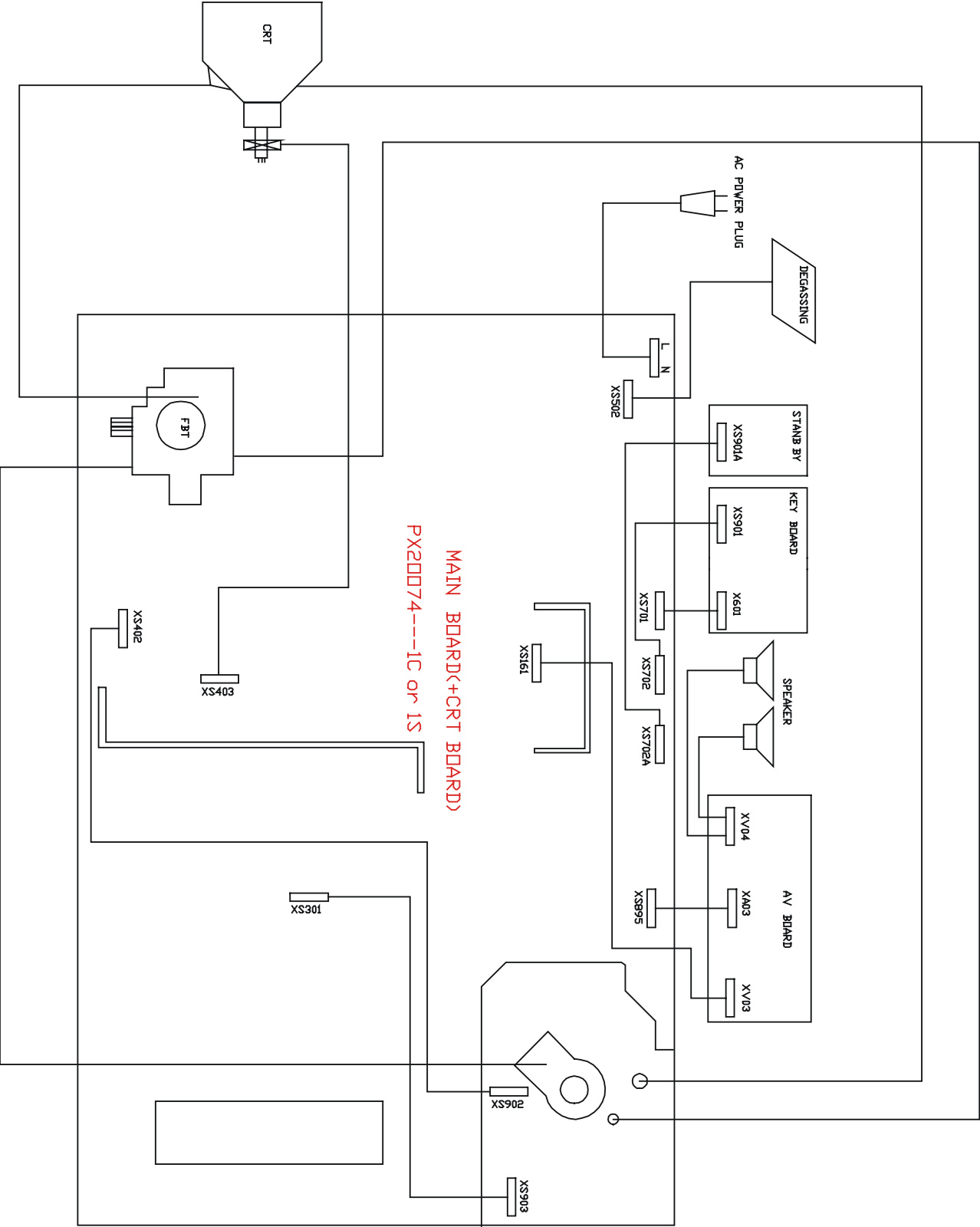
PIN	1	2	3	4	5	6	7	8	9	10	11	12	
V	12	7	0	7	3.3	1.4	0	1.4	0	7	0	7	

## 6. Test point Waveforms





Wiring diagram



	<b>PART LIST</b>	
<b>PART#</b>	<b>DESCRIPTION</b>	<b>LOCA.NO.</b>
<b>203-TK20500-12</b>	<b>TS2050J, PRIMA BRAND JENSEN,N-</b>	
<b>100-TK20500-01</b>	<b>TK2050</b>	
123-30001-04	TWIST WIRE	
655-62101-01	(6-PINS) LEAD WITH HOUSING	
700-60151-00	LED LED COLUMN	
700-60152-00	LED LED COLUMN	
742-30005-09	LINE TIE	
742-30006-09	GRADING TIE	
742-30029-00	POWER CORD CLASPER	
742-30032-00	TIE	
742-30032-00	TIE	
742-30032-00	TIE	
742-30038-00	TIE	
770-37112-40	RV105 12X0.15 370mm BLACK	
780-10915-J40A	BACK CABINET (HIPS V0 MOLD GREY )	
880-10205-802A	BACK PLATE (TS2050J,JENSEN)	
808-70239-00	EVA GLUE 150X50X1	
838-10012-00	BRAIDED WIARE SPRING	
851-23010-11	SCREW SJ2824 ST3X10C-D.Zn	
851-23012-14	SCREW SJ2824 ST3X12C-Y	
851-24016-14	SCREW SJ2824 ST4X16C-Y	
851-24020-11	SCREW SJ2824 ST4X20C-D.Zn	
851-24020-14	SCREW SJ2824 ST4X20C-Y	
851-53010-11	SCREW SJ2825 ST3X10C-D.Zn	
851-53012-14	SCREW SJ2825 ST3X12C-D.Zn	
851-53012-14	SCREW SJ2825 ST3X12C-D.Zn	
851-53018-11	SCREW SJ2825 ST3X18C-D.Zn	
855-A0029-00	SCREW ST4X14	
855-96024-31	COMPOSE SCREW ST6X24BT-D.Zn	
857-10002-09	COTTON FLANNEL	
857-10004-00	COTTON FLANNEL	
863-80747-00	POLY FOAM (TOP ) ( SMALL )	
863-80748-00	POLY FOAM (BOTTOM ) ( SMALL )	
868-10107-00	CUSHION	
868-20007-00	SLEEVE	
868-20142-00	RUBBER WASHER (δ1.5)	
868-20465-00	CUSHION	
868-20472-00D	CRT FIXER	
868-20491-00	CRT SUPPORT	
870-20845-00	LEFT LEADING TRACK	
870-20846-00	RIGHT LEADING TRACK	

881-60085	BLANK WARNING LABEL	
887-20044-01	POWER CORD COVER	
887-20171-00	PALSTIC BAG 70-500-0.06	
887-21096-P0	PE/PEARL COTTONPALSTIC BAG 1100X1000	
887-21135-00	CLASPER PALSTIC BAG 230X330X0.1	
335-21225-00U	CRT A51KQK99X01THICK !	
602-TK2026-01	SCHEMATIC DIAGRAM	
604-TK20506-02	OWNER'S MANUALJENSEN MTS NEWCPU	
611-C50X0J0HC	FRONT CABINET ASS'Y (HIPS V0 SILVER WHITE 03	
808-6B758-04	INTERFACE SPACE PLATE (SILK-SCREEN )	
880-10423-01	FRONT LOGO (JENSEN, SILVERY GLOSS GREY 10	
881-63030-00A	POWER SYMBOL LABEL ( JENSEN)	
881-63758-00	BAR CODE LABEL (69020712050)	
881-80666-00	REGISTER CARD ( JENSEN AMERICA )	
881-80679-00	SERVICE CARD ( AMERICA 20-24 CRT)	
886-31132-121	CARTON BOX (TS2050J,JENSEN)	
887-21135-00	CLASPER PALSTIC BAG 230X330X0.1	
887-21135-02	CLASPER PALSTIC BAG 230X330X0.1	
<b>615-20429-00</b>	<b>SPEAKER ASS'Y</b>	
384-40308-40	SPEAKER ST511-02	
655-51201-185	(5-PINS) LEAD WITH HOUSING	
851-53012-11	SCREW SJ2825 ST3X12C-D.Zn	
868-20217-00	WASHER	
870-20849-00	SPEAKER BRACKET	
<b>667-M24501-05</b>	<b>STANDBY KEY BOARD ASS'Y</b>	
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	
665-2E301-24	(2-PINS) LEAD WITH HOUSING	
782-13Y90-050A	BUTTON PCB	
<b>667-TKP50-01C</b>	<b>MAIN PCB ASS'Y</b>	
667-TKP50-01C\	MAIN PCB ASS'Y (MANUAL INSERTION )	
364-32101-00	2-PINS CONNECTORS TJC3-02A	XS702
464-6D647-M0	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C121
467-2E120-H0	METAL RESISTOR 1/2W-200Ω-JL	R407
491-70240-02	POWER CORD UL !	
535-TK2050-02W	OUTSOURCING ASS'Y	
BT-0330D---CH	RC.TRANSMIT(PRIMA) REMOTE CONTROL ( JENSEN )	ZZ030
BXATB017F---K	TUNER(ET-5T5E-AF108)	A101
CAF104K1-H-FC	50V0.1u	C326 C338 C365
		C411 C511
CAF224K1-H-FC	50V0.22u	C331 C334 C404

CCF330J1CA-FN	50V33P	C761 C762
CED102M1ACHNP	25V1000u	C522
CED222M2ACKNP	25V2200u	C524
CED471M1ACENP	25V470u	C161
CEE331M1ACFNP	35V330u	C530
CEH100M1ACENP	160V10u	C458
CEH221M2ECLNP	160V220u	C528B
CEJ221M3AEHNM	200V220u	C507
CEK100M1ACHNP	250V10u	C477 C941
CKF472K1BA-FN	50V4700P	C324 C336
CKMX102M301ND	AC400V1000P	C515A
CKMX471K301ND	AC400V470P	C515 C598 C598B
CKP101K1BA-FD	500V100P	C482
CKW102K2BJ-ND	1KV1000P	C503 C504
		C505 C506
CKW471K2RA-ND	1KV470P	C529
CKX102P2EJ-ND	2KV1000P	C512 C943
CKX331K2RA-ND	2KV330P	C456
CKX471K2RA-ND	2KV470P	C543
CKX681K2RA-ND	2KV680P	C527
CMNX224M801NP	AC275V0.22u	C501 C502
CMZ752J7-H-NE	1.6KV7500p	C455
CNJ394J9-H-NE	200V0.39u	C467
DH24R5M001-NC	PTC4.5ohm(3 END )	PS501
DN15R0M001-NN	NTCMF72-5D13 5ohm	R502
DRRGP10D---TD	RGP10D	VD401 VD436
		VD470 VD471
DRRGP10D---TD	RGP10D	VD510 VD512
		VD522 VD525
DRRGP10D---TD	RGP10D	VD581 VD482A
DRRGP10J---TD	RGP10J	VD472 VD524
DRRGP15D---TD	RGP15D	VD521 VD543
DRTVR4J----ND	TVR4J	VD503 VD504 VD505
		VD506 VD508
DZHZ12A2---TH	HZ12A2	VD588
DZHZ3C3----TQ	HZ3C3	VD564
DZHZ4A2----TQ	HZ4A2	VD509
DZHZ5C1----TQ	HZ5C1	VD300A
DZHZ7C1----TQ	HZ7C1	VD381 VD382 VD383
DZHZ9A3----TQ	HZ9A3	VD483 VD822
		VD941 VD861A
FBA3004S02U-A	FUSE 3A RT1-20 UL	F501
GAAV2001----A	2S SOCKET(BIG )	XR502

GABV2001----N	2S SOCKET(MIDDLE )	XS502
GACV5001----A	5S SOCKET(SMALL XH)	XS161
GACV6001----A	6S SOCKET	XS895
GBAVL007----A	CRT SOCKET THICK GZS10-2-108	XS901
GBBB9-06----8	AVSOCKET(AV16-09-004)	XS801
GBCH5001----Y	S END	XS861
HAA0004-----G	SMIT-SS-112DM(27ohm)	RL581
JW4451-J001-A	4P LINE(450mm D2-D2)	XS402 (XS402→XS902)
JW5431-J132-A	5P LINE(E3D 430mm)	XS903 (XS903→XS301)
LEA001-5---NJ	M-COIL( FERRITE BEAD )	L450 L505
LEE004-----NJ	FERRITE BEAD (6*5*1.5mm)	ZD524+ ZD524-
LF-037-2---NJ	LINE COIL ROW LINELX37	L452
LG-003-----NL	LINE FILTER(4MH)	L502
LG-013-----NL	LINE FILTER10*12.5	L501
LM-067-----NG	DEGAUS COIL	L511
M90X0003---91	INSULATING CUSHION 18*13 D4.8	Z1
MB0X0011---G8	FUSE SOCKET(FUSE HOLDER )	F501A F501B
MB1X0040---BF	12V RADIATOR	H-N505
MB1X0114---BF	5V RADIATOR (CUBA)	H-N503
MB1X0196---BF	ROW RADIATOR	H-V451
MB1X0228---BG	SOUND RADIATOR	H-N161
MB1X0269---BF	POWER RADIATOR	H-N501
MG3X0036---D7	INSULATING WASHER (D9)	Z2
MG3X0037---D7	INSULATING WASHER (D9)	Z3
NAN17821A--N-	AN17821A	N161
NAT24C08---N-	AT24C08	N702
NCW574CS---N-	CW574CS	N703
NHEF4052---BP	HEF4052	N121 N801
NK1010B---N-	K1010B	N504
NKA431AZ---F-	KA431AZ	V540
NKA5Q0765H-N-	KA5Q0765H	N501
NMC7805CT--N-	MC7805CT	N505
NMC7808CT--N-	MC7808CT	N503
NOM8377-B-6NC	NOM8377-B-6NC	N301
NOM8377-B-9NA	OM8377PS/N3/2	N301
NSTV9302A--N-	STV9302A	N401
PX20074----3Q	MAIN+CRTPCB	ZZ60
Q2PA1015-GNF-	2PA1015G	V171 V581
Q2PA1015-GNF-	2PA1015G	V492
Q2PC1815-GNF-	2PC1815 G	V121 V122
		V173 V351
Q2PC1815-GNF-	2PC1815 G	V352 V395
		V504 V801

Q2PC1815-GNF-	2PC1815G	V491
Q2SB1443--NN-	2SB1443 TV2 Q	V542
QBF421----NF-	BF421	V913 V923 V933
QBF422----NF-	BF422	V912 V922 V932
QKSC1674C-NN-	KSC1674C	V308
QKSC2330-YYN-	KSC2330	V911 V921 V931
QKSC2383-ONF-	KSC2383O	V450
QTT2140---BN-	TT2140	V451
RDD102J-NACTD	1/2W 1K	R453
RDD683J-NACTD	1/2W 68K	R507 R508
RFER27J5ACDNF	1W 0.27	R555 R565 R566
RFER47J5ACDNF	1W 0.47	R165 R470
		R472 R545
RGDX126K-03NA	1/2W 12M(PMSR34015126)	R519
RGDX152K-03NZ	1/2W 1.5K	R918 R928 R938
RJB393F-NAATD	1/6W 39K	R411
RSE102J4ACCND	1W 1K	R466
RSE1R2J5DCCND	1W 1.2	R406
RSE220J5ACCND	1W 22	R300A
RSF103J5ACDND	2W 10K	R467 R703
RSF103J7ACDND	2W 10K	R915 R925 R935
RSF153J7ACDND	2W 15K	R556
RSF1R5J7ACDND	2W 1.5	R480
RSF271J7ACDND	2W 270	R454
RSF560J5ACDND	2W 56	R530
RSF5R6J5ACDND	2W 5.6	R941
RWH3R9K3AK-NR	5W 3.9	R458
SCA-25016FE-H	GB818 M2.5*12	SN401
SFAC30010FE1H	SJ2836-87(M3*10.I)	SN503 SN161A SN161B
SFAC30012FE1H	SJ2836-87(M3*12.I)	S-N501 S-V451
SKA-308R0FE-H	GB845-78 ST3*8	S-N505 S-V432
SXN1A25--FF-H	M2.5NUT	zz360
SXN1A30--FF-H	M3(NUT )	NN161A NN161B
SXN1A30--FF-H	M3(NUT )	N-N501 N-N503
		N-V451
SXW1A25--FE-H	GB97.1 D2.5 WASHER	ZN401
TD-0004----0L	H-DRIVER( ROW PUSH)	T450
TF-0133U---2U	F.B.T(BSC24-01N4004U)	T451
TM-0105U---0L	CON.TRANS(SPT4001 UL)	T501
VDAAA203A001C	20KB	VR501
XFS031-----NB	SAWF M1967	Z301
XTC009-----NP	T4.5MTRAP FILTER	Z351
XX-021-----NC	CR.OSC12M(18P)	X761

340-00001-00	DIODE 1N4148	VD911
364-32101-00	2-PINS CONNECTORS TJC3-02A	XS702A
364-34101-00	4-PINS CONNECTORS TJC3-04A	XS701
364-36102-00	6-PINS CONNECTORS TJC2-6A	XS403
459-B222M-20	CERAMIC CAPACITOR ECK-DNS222MEX !	
459-2133K-90	CERAMIC CAPACITOR RBU07SL331K-H46CA	C911
459-2147H-90	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C732
464-6D610-M0	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C322
464-6D610-M0	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C751
464-6D647-M0	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C723A
464-6D647-M0	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C815
464-6D710-M0	ELECTROLYTIC CAPACITOR CD110-16V-100uF-M	C743
464-6D733-M0	ELECTROLYTIC CAPACITOR CD110-16V-330uF-M	C581
464-60510-M0	ELECTROLYTIC CAPACITOR CD110-50V-1uF-M	C841
464-60522-M0	ELECTROLYTIC CAPACITOR CD110-50V-2.2uF-M	C755
464-60547-M0	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C340
464-60547-M0	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C340
467-1C022-H0	CARBON RESISTOR 1/6W-22Ω-J	R914
467-1C130-H0	CARBON RESISTOR 1/6W-300Ω-J	R913
467-1C310-H0	CARBON RESISTOR 1/6W-10K-J	C535
467-2D218-G0	METAL RESISTOR 1/4W-1.8K-G	R403
467-2D218-G0	METAL RESISTOR 1/4W-1.8K-G	R405
467-2E210-H0	METAL RESISTOR 1/2W-1kΩ-JL	R460
467-8E522-H0U	SOLID RESISTOR 1/2W-2.2MΩ-JL !	R588
471-2001K-00	PEAKING COIL SPT0305-1R0K-5	L302
475-25451-00	CERAMIC TRAP FILTER XT4.5MB	Z351
666-12301-00	FERRITE BEAD TY23X13.5X6	
666-13501-00	FERRITE BEAD TBL-P# 2122651A	V451-C
666-13501-00	FERRITE BEAD TBL-P# 2122651A	V451-B
681-40003-00	OK LABEL	
742-30005-09	LINE TIE	
742-30005-09	LINE TIE	
775-60044-00	SOCKET PIN RT-01T-1.3B	TP2
775-60044-00	SOCKET PIN RT-01T-1.3B	TP3
881-60074-00	HIGH VOLTAGE WARNING LABEL	
998	JUMPER WIRE	W025
742-30005-09	LINE TIE	
775-10054-00	SOLDERING BLADE	L
775-10054-00	SOLDERING BLADE	N
998	JUMPER WIRE	W101A
998	JUMPER WIRE	W102A
667-TKP50-01C*	MAIN PCB ASS'Y (AUTOMATIC INSERTION )	

459-2133K-902	CERAMIC CAPACITOR RBU07SL331K-H46CA	C323
462-B0233-H02	POLYESTER CAPACITOR CL21X-50V-3300PF-J	C321
462-00256-H02	POLYESTER CAPACITOR CL11-100V-5600PF-J	C154
462-00256-H02	POLYESTER CAPACITOR CL11-100V-5600PF-J	C158
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C123
467-1C033-H03	CARBON RESISTOR 1/6W-33Ω-J	R398
467-1C047-H03	CARBON RESISTOR 1/6W-47Ω-J	R921
467-1C047-H03	CARBON RESISTOR 1/6W-47Ω-J	R931
467-1C215-H03	CARBON RESISTOR 1/6W-1.5K-J	R397
467-1C256-H03	CARBON RESISTOR 1/6W-5.6K-J	R481
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R395
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R396
340-00001-003	DIODE 1N4148	VD171
340-00001-003	DIODE 1N4148	VD461
340-00001-003	DIODE 1N4148	VD462
340-00001-003	DIODE 1N4148	VD511
340-00001-003	DIODE 1N4148	VD544
340-00001-003	DIODE 1N4148	VD561
340-00001-003	DIODE 1N4148	VD562
340-00001-003	DIODE 1N4148	VD734
340-00001-003	DIODE 1N4148	VD921
340-00001-003	DIODE 1N4148	VD931
340-00001-003	DIODE 1N4148	VD582
340-51790-003	*ZENER DIODE HZ18C2	VD481
459-2133K-902	CERAMIC CAPACITOR RBU07SL331K-H46CA	C921
459-2133K-902	CERAMIC CAPACITOR RBU07SL331K-H46CA	C931
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C803
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C805
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C812
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C814
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C824
459-2147H-902	CERAMIC CAPACITOR CC1-12-SL-63V-471J	C826
459-2156K-002	CERAMIC CAPACITOR CT1-06-2B4-63V-561K	C381
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C308
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C311
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C401
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C402
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C721
459-2210K-002	CERAMIC CAPACITOR CK45-B1H102KYR	C861
459-2222K-002	CERAMIC CAPACITOR CT1-08-2B4-63V-222K	C335
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYZR	C309
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYZR	C313
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYZR	C332



459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C362
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C472
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C475
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C723
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C744
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C752
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C756
459-2310R-002	CERAMIC CAPACITOR CK45-F1H103ZYR	C399
459-2410R-002	CERAMIC CAPACITOR DD308-63F104Z50	C302
459-2410R-002	CERAMIC CAPACITOR DD308-63F104Z50	C703A
459-5122K-002	CERAMIC CAPACITOR RQC05B221K-6H46UA	C405
459-5147K-002	CERAMIC CAPACITOR RQC05B471K-H46CA	C513
459-5210K-002	CERAMIC CAPACITOR CK45-B2H102KYR	C452
459-5239K-002	CERAMIC CAPACITOR CK45-B2H392KYR	C451
462-B0422-H02	POLYESTER CAPACITOR CL21X-50V-0.22uF-J	C491
462-00333-H02	POLYESTER CAPACITOR CL11-100V-0.033uF-J	C403
462-00333-H02	POLYESTER CAPACITOR CL11-100V-0.033uF-J	C510
462-00333-H02	POLYESTER CAPACITOR CL11-100V-0.033uF-J	C544
462-00410-H02	POLYESTER CAPACITOR CL11-100V-0.1uF-J	C460
464-6C710-M02	ELECTROLYTIC CAPACITOR CD110-10V-100uF-M	C301
464-6C710-M02	ELECTROLYTIC CAPACITOR CD110-10V-100uF-M	C548
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C163A
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C172
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C363
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C364
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C367
464-6D610-M02	ELECTROLYTIC CAPACITOR CD110-16V-10uF-M	C807
464-6D622-M02	ELECTROLYTIC CAPACITOR CD110-16V-22uF-M	C745
464-6D622-M02	ELECTROLYTIC CAPACITOR CD110-16V-22uF-M	C352
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C116
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C171
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C333
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C561
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C811
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C823
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C871
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C804
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C806
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C813
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C825
464-6D647-M02	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C827
464-6D710-M02	ELECTROLYTIC CAPACITOR CD110-16V-100uF-M	C361
464-6D747-M02	ELECTROLYTIC CAPACITOR CD110-16V-470uF-M	C525

464-6D747-M02	ELECTROLYTIC CAPACITOR CD110-16V-470uF-M	C532
464-6D747-M02	ELECTROLYTIC CAPACITOR CD110-16V-470uF-M	C801
464-6E710-M02	ELECTROLYTIC CAPACITOR CD110-25V-100uF-M	C471A
464-6E710-M02	ELECTROLYTIC CAPACITOR CD110-25V-100uF-M	C474A
464-6E722-M02	ELECTROLYTIC CAPACITOR CD110-25V-220uF-M	C471
464-6E722-M02	ELECTROLYTIC CAPACITOR CD110-25V-220uF-M	C474
464-6F647-M02	ELECTROLYTIC CAPACITOR CD110-35V-47uF-M	C453
464-6F647-M02	ELECTROLYTIC CAPACITOR CD110-35V-47uF-M	C460A
464-6F710-M02	ELECTROLYTIC CAPACITOR CD110-35V-100uF-M	C406
464-60447-M02	ELECTROLYTIC CAPACITOR CD110-50V-0.47uF-M	C372
464-60447-M02	ELECTROLYTIC CAPACITOR CD110-50V-0.47uF-M	C374
464-60510-M02	ELECTROLYTIC CAPACITOR CD110-50V-1uF-M	C163
464-60510-M02	ELECTROLYTIC CAPACITOR CD110-50V-1uF-M	C337
464-60510-M02	ELECTROLYTIC CAPACITOR CD110-50V-1uF-M	C862
464-60522-M02	ELECTROLYTIC CAPACITOR CD110-50V-2.2uF-M	C339
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C325
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C464
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C481
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C153
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C157
464-60547-M02	ELECTROLYTIC CAPACITOR CD110-50V-4.7uF-M	C307
464-60622-M02	ELECTROLYTIC CAPACITOR CD110-50V-22uF-M	C703
464-60647-M02	ELECTROLYTIC CAPACITOR CD110-50V-47uF-M	C462
464-60647-M02	ELECTROLYTIC CAPACITOR CD110-50V-47uF-M	C517
464-62547-M02	ELECTROLYTIC CAPACITOR CD288-160V-4.7uF-M	C466
467-1C022-H03	CARBON RESISTOR 1/6W-22Ω-J	R924
467-1C022-H03	CARBON RESISTOR 1/6W-22Ω-J	R934
467-1C033-H03	CARBON RESISTOR 1/6W-33Ω-J	R806
467-1C047-H03	CARBON RESISTOR 1/6W-47Ω-J	R368
467-1C047-H03	CARBON RESISTOR 1/6W-47Ω-J	R708
467-1C047-H03	CARBON RESISTOR 1/6W-47Ω-J	R911
467-1C056-H03	CARBON RESISTOR 1/6W-56Ω-J	R355
467-1C056-H03	CARBON RESISTOR 1/6W-56Ω-J	R801
467-1C068-H03	CARBON RESISTOR 1/6W-68Ω-J	R304
467-1C082-H03	CARBON RESISTOR 1/6W-82Ω-J	R313
467-1C082-H03	CARBON RESISTOR 1/6W-82Ω-J	R815
467-1C082-H03	CARBON RESISTOR 1/6W-82Ω-J	R824
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R301A
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R302A
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R363
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R365
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R366
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R381

467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R382
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R383
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R401
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R402
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R452
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R723
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R724
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R743
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R861
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R862
467-1C110-H03	CARBON RESISTOR 1/6W-100Ω-J	R354
467-1C115-H03	CARBON RESISTOR 1/6W-150Ω-J	R815A
467-1C115-H03	CARBON RESISTOR 1/6W-150Ω-J	R848
467-1C115-H03	CARBON RESISTOR 1/6W-150Ω-J	R852
467-1C115-H03	CARBON RESISTOR 1/6W-150Ω-J	R304A
467-1C118-H03	CARBON RESISTOR 1/6W-180Ω-J	R353
467-1C118-H03	CARBON RESISTOR 1/6W-180Ω-J	R805
467-1C122-H03	CARBON RESISTOR 1/6W-220Ω-J	R311
467-1C122-H03	CARBON RESISTOR 1/6W-220Ω-J	R917
467-1C122-H03	CARBON RESISTOR 1/6W-220Ω-J	R927
467-1C122-H03	CARBON RESISTOR 1/6W-220Ω-J	R937
467-1C130-H03	CARBON RESISTOR 1/6W-300Ω-J	R923
467-1C130-H03	CARBON RESISTOR 1/6W-300Ω-J	R933
467-1C133-H03	CARBON RESISTOR 1/6W-330Ω-J	R916
467-1C133-H03	CARBON RESISTOR 1/6W-330Ω-J	R926
467-1C133-H03	CARBON RESISTOR 1/6W-330Ω-J	R936
467-1C139-H03	CARBON RESISTOR 1/6W-390Ω-J	R322
467-1C139-H03	CARBON RESISTOR 1/6W-390Ω-J	R775
467-1C147-H03	CARBON RESISTOR 1/6W-470Ω-J	R308
467-1C168-H03	CARBON RESISTOR 1/6W-680Ω-J	R316
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R128
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R129
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R369
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R380
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R464
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R531
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R541
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R544
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R734
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R802
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R803
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R816
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R818

467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R825
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R827
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R492
467-1C210-H03	CARBON RESISTOR 1/6W-1K-J	R351
467-1C212-H03	CARBON RESISTOR 1/6W-1.2K-J	R305
467-1C212-H03	CARBON RESISTOR 1/6W-1.2K-J	R560
467-1C215-H03	CARBON RESISTOR 1/6W-1.5K-J	R732
467-1C222-H03	CARBON RESISTOR 1/6W-2.2K-J	R371
467-1C222-H03	CARBON RESISTOR 1/6W-2.2K-J	R451
467-1C224-H03	CARBON RESISTOR 1/6W-2.4K-J	R515
467-1C227-H03	CARBON RESISTOR 1/6W-2.7K-J	R540
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R463
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R702
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R721
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R722
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R728
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R735
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R741
467-1C233-H03	CARBON RESISTOR 1/6W-3.3K-J	R742
467-1C239-H03	CARBON RESISTOR 1/6W-3.9K-J	R455
467-1C239-H03	CARBON RESISTOR 1/6W-3.9K-J	R462
467-1C239-H03	CARBON RESISTOR 1/6W-3.9K-J	R321
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R131
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R133
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R154
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R158
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R306
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R733
467-1C247-H03	CARBON RESISTOR 1/6W-4.7K-J	R491
467-1C256-H03	CARBON RESISTOR 1/6W-5.6K-J	R370
467-1C256-H03	CARBON RESISTOR 1/6W-5.6K-J	R583
467-1C262-H03	CARBON RESISTOR 1/6W-6.2K-J	W555
467-1C282-H03	CARBON RESISTOR 1/6W-8.2K-J	R153A
467-1C282-H03	CARBON RESISTOR 1/6W-8.2K-J	R157A
467-1C282-H03	CARBON RESISTOR 1/6W-8.2K-J	R562
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R126
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R127
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R163
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R434
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R482A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R543
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R548
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R816A

467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R818A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R825A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R827A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R851A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R852A
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R912
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R922
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R932
467-1C310-H03	CARBON RESISTOR 1/6W-10K-J	R709
467-1C315-H03	CARBON RESISTOR 1/6W-15K-J	R331
467-1C318-H03	CARBON RESISTOR 1/6W-18K-J	R804
467-1C322-H03	CARBON RESISTOR 1/6W-22K-J	R162
467-1C322-H03	CARBON RESISTOR 1/6W-22K-J	R384
467-1C327-H03	CARBON RESISTOR 1/6W-27K-J	R484
467-1C327-H03	CARBON RESISTOR 1/6W-27K-J	R487
467-1C333-H03	CARBON RESISTOR 1/6W-33K-J	R171
467-1C333-H03	CARBON RESISTOR 1/6W-33K-J	R175
467-1C333-H03	CARBON RESISTOR 1/6W-33K-J	R317
467-1C333-H03	CARBON RESISTOR 1/6W-33K-J	R385
467-1C347-H03	CARBON RESISTOR 1/6W-47K-J	R172
467-1C347-H03	CARBON RESISTOR 1/6W-47K-J	R732A
467-1C347-H03	CARBON RESISTOR 1/6W-47K-J	R745
467-1C347-H03	CARBON RESISTOR 1/6W-47K-J	R807
467-1C368-H03	CARBON RESISTOR 1/6W-68K-J	R173
467-1C410-H03	CARBON RESISTOR 1/6W-100K-J	R483
467-1C410-H03	CARBON RESISTOR 1/6W-100K-J	R802A
467-1C410-H03	CARBON RESISTOR 1/6W-100K-J	R803A
467-1C410-H03	CARBON RESISTOR 1/6W-100K-J	R582
467-1C415-H03	CARBON RESISTOR 1/6W-150K-J	R318
467-1C427-H03	CARBON RESISTOR 1/6W-270K-J	R174
467-1C456-H03	CARBON RESISTOR 1/6W-560K-J	R465
467-1DA27-H03	CARBON RESISTOR RT14-1/4W-2.7Ω-J	R468
467-1DA82-H03	CARBON RESISTOR RT14-1/4W-8.2Ω-J	R513
467-1D001-H03	CARBON RESISTOR RT14-1/4W-1Ω-J	R404
467-1D010-H03	CARBON RESISTOR RT14-1/4W-10Ω-J	R871
467-1D027-H03	CARBON RESISTOR RT14-1/4W-27Ω-J	R561
467-1D110-H03	CARBON RESISTOR RT14-1/4W-100Ω-J	R486
467-1D222-H03	CARBON RESISTOR RT14-1/4W-2.2K-J	R161
467-1D227-H03	CARBON RESISTOR RT14-1/4W-2.7K-J	R512
467-1D310-H03	CARBON RESISTOR RT14-1/4W-10K-J	R485
467-1D351-H03	CARBON RESISTOR RT14-1/4M-51K-J	R539A
467-1D356-H03	CARBON RESISTOR RT14-1/4W-56K-J	R539
467-1D433-H03	CARBON RESISTOR RT14-1/4W-330K-J	R942

467-2C322-G03	METAL RESISTOR 1/6W-22K-G	R482
471-2A56K-003	PEAKING COIL SPT0305-5R6K-5	L351
471-2010K-003	PEAKING COIL SPT0305-100K-5	L331
471-2010K-003	PEAKING COIL SPT0305-100K-5	L361
471-2010K-003	PEAKING COIL SPT0305-100K-5	L751
471-2010K-003	PEAKING COIL SPT0305-100K-5	L752
471-2010K-003	PEAKING COIL SPT0305-100K-5	L753
895-6016030-50	RIVET GB876-86 1.6X3 COPPER	M1
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895-6016030-50	RIVET GB876-86 1.6X3 COPPER	M5
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895-6016030-50	RIVET GB876-86 1.6X3 COPPER	M23
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895-6016030-50	RIVET GB876-86 1.6X3 COPPER	M26
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895-6025030-50	RIVET GB876-86-2.5X3 COPPER	D4
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998	JUMPER WIRE	W023
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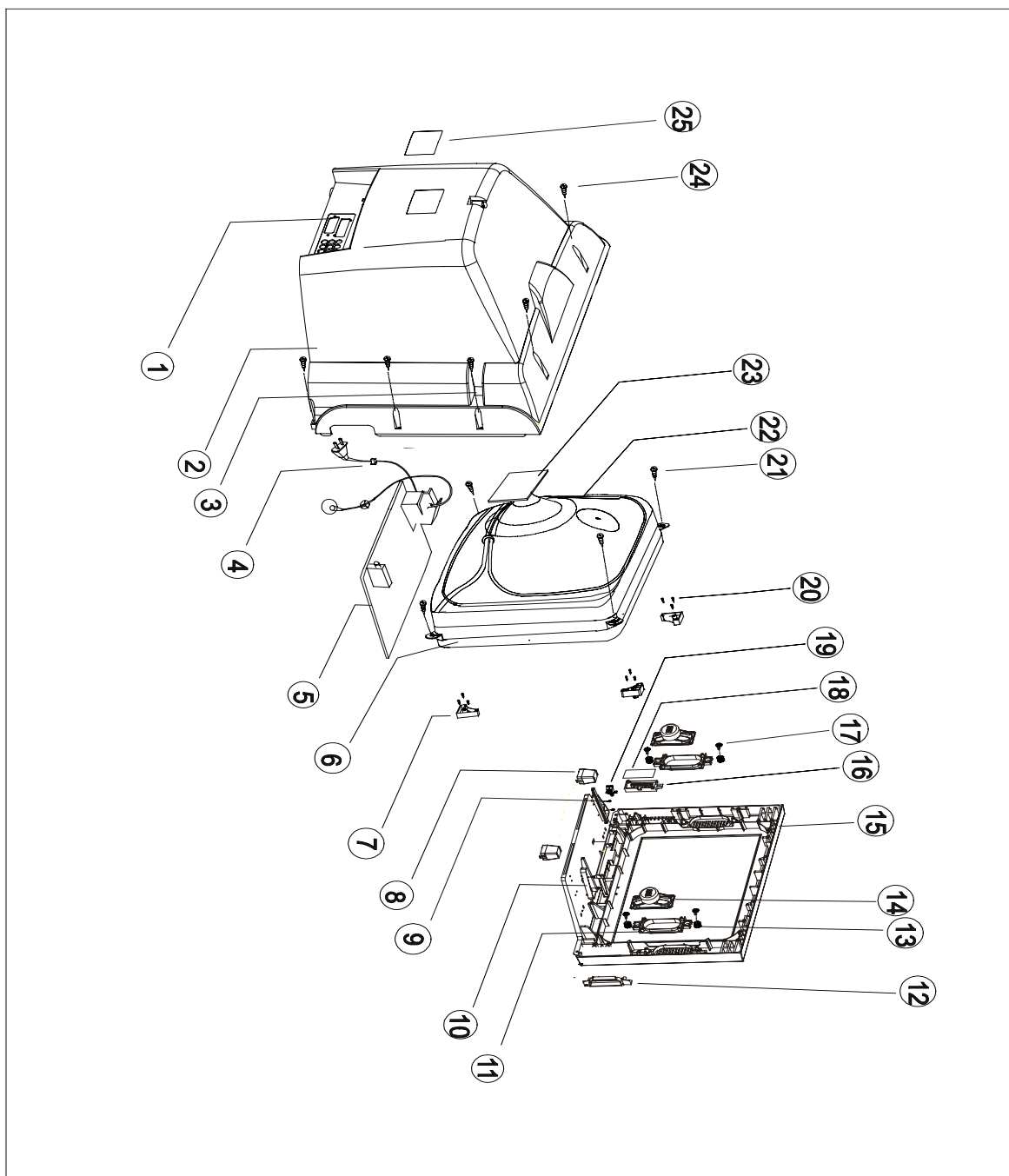
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998	JUMPER WIRE	R520
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895-6016030-50	RIVET GB876-86 1.6X3 COPPER	M29
998	JUMPER WIRE	W262
998	JUMPER WIRE	W267
<b>667-TK2050-05</b>	<b>KEY BOARD ASS'Y</b>	
340-10039-20	LED HFR205 (RED )	VD601
352-38060-60	IC HRM138BB3006 (M)	U601
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S901
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S902
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S903
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S904
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S905
360-10001-00	TACT SWITCH KFC-A06-4X4.5X5B	S906
459-2310R-00	CERAMIC CAPACITOR CT1-08-2F4-63V-103Z	C602
464-6D647-M0	ELECTROLYTIC CAPACITOR CD110-16V-47uF-M	C601
467-1C033-H0	CARBON RESISTOR 1/6W-33Ω-J	R602
467-1C133-H0	CARBON RESISTOR 1/6W-330Ω-J	R601
467-1C215-H0	CARBON RESISTOR 1/6W-1.5K-J	R901
467-1C218-H0	CARBON RESISTOR 1/6W-1.8K-J	R902

467-1C230-H0	CARBON RESISTOR 1/6W-3K-J	R903
467-1C230-H0	CARBON RESISTOR 1/6W-3K-J	R904
467-1C262-H0	CARBON RESISTOR 1/6W-6.2K-J	R905
467-1C318-H0	CARBON RESISTOR 1/6W-18K-J	R906
655-21201-57	(2-PINS) LEAD WITH HOUSING	X901
655-41201-169	(4-PINS) LEAD WITH HOUSING	X601
782-M2550-0500	BUTTON PCB	
877-50411-00	KEY	
877-50412-01	KEY CAP ( PLATE )	
998	JUMPER WIRE	J901
667-TK2150-29A	SIDE AV BOARD ASS'Y	
364-93202-00	AV JACK AV306-2	XA01
655-6E301-04	(6-PINS) LEAD WITH HOUSING	#XA03
782-M2150-290B	SIDE AV PCB	
808-6B786-07	AV BAFFLE (SILK-SCREEN )	
851-53010-31	SCREW SJ2825 ST3X10FT-D.Zn	
868-10043-00	WASHER (14X4X1 METAL)	
870-20843-40	SIDE AV BRACKET ( MOLD GREY )	
998	JUMPER WIRE	LA01
998	JUMPER WIRE	LA02

# EXPLODED VIEW




# TK2050


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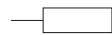
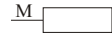
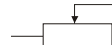
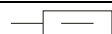

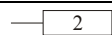







## PART LIST OF EXPLODED VIEW

NO.	DESCRIPTION	PART#
1	PORT BAFFLE	808-6B758-04
2	REAR CABINET	780-10915-J40A
3	SCREW	851-24020-14
4	POWER LINE CLASP	742-30029-00
5	MAIN BOARD ASSY	667-TKP50-01A
6	CRT	335-21225-00U
7	CRT FIXED BLOCK	868-20472-00D
8	CRT SUPPORT	868-20491-00
9	SCREW	851-53010-11
10	RIGHT LEAD TRACK	870-20846-00
11	SPEAKER BRACKET	870-20849-00
12	SIDE AV BRACKET	870-20843-40
13	WASHER	868-20217-00
14	SPEAKER	384-40308-40
15	FRONT CABINET	611-C50X0J0HC
16	BUTTON	877-50411-00
17	SCREW	855-A0029-00
18	BUTTON PCB	782-13Y90-050A
19	STANDYBY BOARD ASSY	667-TK2050-05
20	SCREW	851-24020-11
21	COMPONENT SCREW	855-96024-31
22		
23	CRT BOARD	No number
24	SCREW	851-24020-14
25	REAR CABINET	780-10915-J40A

## SCHEMATIC DIAGRAM

**CAUTION:** all the parts in the schematic diagram marked with shadows and the signs of  are extremely important for safety. In case of replacement of any part of components. Be sure to consult the service manual carefully.

1. the schematic diagram is characteristic. The various values in the electric circuits are basic data, which are changeable according to the various basic circuits.
2. testing waves are obtained by inputting the standard color bar of the signed.
3. resistance unit is in Ohm, namely: K=1000; M=1000K; Capacitance unit is in  $\mu\text{F}$ ; P= $\mu\mu\text{F}$  ( $\mu=10^{-6}$ )
4. Unless otherwise noted inside, all resistors are 1/6W, the withstand voltage of all capacitors are 50V.
5. Inductance unit is in  $\mu\text{H}$ .
6. The mark  in the diagram means Ferrite ring
7. The symbols of various types of resistors and capacitors are listed as follows:

Carbon film resistor	
Metal film resistor	
Potentiometer resistor	
1/2w resistor	
1w resistor	
2w resistor	
3w resistor	
Ceramic capacitor	
AC Ceramic capacitor	
Terylene capacitor	
Polypropylene capacitor	
Metal Terylene capacitor	
Aluminium electrolyse capacitor	
Tantalum electrolyse capacitor	